UNITED STATES PATENT AND TRADEMARK OFFICE

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _07 May 2001_.
2a) ☐ This action is **FINAL.**   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
    closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1-33_ is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) _1-10,12-14,16-21,23-25 and 27-32_ is/are rejected.
7) ☒ Claim(s) _4,11,15,22,26 and 33_ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
      1. ☐ Certified copies of the priority documents have been received.
      2. ☐ Certified copies of the priority documents have been received in Application No. _____.
      3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage
          application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
    Paper No(s)/Mail Date _10/15/01_.
4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

The instant application having application No. 09/851,452 has a total of 33 claims

pending in the application; there are 3 independent claims and 30 dependent claims, all

of which are ready for examination by the examiner.

INFORMATION CONCERNING CLAIMS:

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-3, 5-7, 12-14, 16-18, 23-25, and 27-29 are rejected under 35

U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,182,111 B1 to Inohara et al

(hereinafter Inohara).

1.   In regard to claim 1, Inohara teaches:

"A method of maintaining cache in a clustered environment comprising:" **(e.g., see**

column 3 lines 6 and 19-21).

"receiving a request in a primary node of a storage cluster for accessing data;" **(e.g.,**

see column 9 lines 28-30). For example the first server and second server taught by

Inohara represent primary node and secondary node, respectively cited in the instant

application.

"selecting a secondary node for storing data in cache based on a historic point of

access list maintained in a cache directory;" **(e.g., see column 13 lines 35-37).** The

access strategy table keep records that indicate which server have the Uniform

Resource Locator or URL (e.g. see column 9 lines 37-39). The access strategy table

also keeps records of access' date and time in the past (e.g. access history), see

column 11 lines 45-47).

"forwarding modified data and symbolic information to one or more relevant nodes in the

storage cluster;" **(e.g., see column 9 lines 58-61).** For example the URL message

transmitted (forwarded) to all other servers. Each URL is in correspondence with a

collection of data including character and image data.

"and updating the historic point of access list based on the symbolic information." **(e.g.,**

see column 10 lines 23-24). For example the message-processing unit renews

(updates) the access strategy table.

2.   In regard to claim 2, Inohara teaches:

"wherein the request is to write data." **(e.g., see column 9 lines 56-58).** For example

the servers add (write) the URL contents, which include data, to the home page cache.

3.   In regard to claim 3, Inohara teaches:

"the historic point of access indicates that the data is not currently in cache of any node of the storage cluster;" **(e.g., see column 9 lines 41-42; column 11 column 32-36).** For example the access strategy table, which includes the cache directory, stores a plurality of combinations of URLs (e.g. column 11 lines 6-7).

"and the secondary node selected is any node in the storage cluster." **(e.g., see column 9 lines 43-45).** For example a second server represents the secondary node.

4.   In regard to claim 5, Inohara teaches:

"the symbolic information includes information relating to the first node;" **(e.g., see column 11 lines 32-39).** For example URLs include a symbolic host names including first server.

"and the historic point of access list is updated by:" **(e.g., see column 9 lines 61-63).** For example adding a URL to the home page cache updates the cache.

"listing the first node as the primary node;" **(e.g., see column 9 lines 28-30).** For example the first server represents the primary node.

"and listing the secondary node as the secondary node." **(e.g., see column 9 lines 37-39).** For example the strategy table stores information (e.g. list) regarding which URL contents the other servers have. This information includes the second server or secondary node.

5.   In regard to claim 6, Inohara teaches:

"selecting a remote node that is an original secondary node in the historic point of access list maintained in the cache directory." **(e.g., see column 11 lines 6-7 and 45-47; column 13 lines 36-37).** For example server 205 shown in Figure 2 is a remote server or a remote secondary node.

6.   In regard to claim 7, Inohara teaches:

"a copy of the modified data is maintained in the first node and the secondary node;" **(e.g., see column 9 lines 56-61).** For example addition of a URL updates the cache.

"and the symbolic information is maintained in remaining nodes of the storage cluster." **(e.g., see column 9 lines7-12 and 48-50; column 11 lines 6-7).** For example each server has a non-volatile secondary storage such as magnetic hard disk and optical disk and a volatile main memory and a cache memory. Other servers including the second server also maintain the URL, which include data.

7.   In regard to claim 12, Inohara teaches:

"An apparatus for maintaining cache in a clustered environment comprising:" **(e.g., see column 3 lines 6 and 19-20).**

"(a) a cache;" **(e.g., see column 9 line 11).**

"(b) a cache directory comprising a historic point of access list for the cache;" **(e.g., see column 9 lines 37-38; column 11 lines 6-7, 32-33, and 45-47).** For example the strategy table, which includes cache directory keeps records of names and access history of the servers (e.g. past time and date).

"(c) a storage node organized in a storage cluster and having an interface for connecting to a host," **(e.g., see column 9 lines 7-12; column 11 lines 8-9).**

"a storage disk, and one or more additional storage nodes," **(e.g., see column 9 lines 8-9).**

"wherein the storage node maintains cache and the cache directory," **(e.g., see column 9 line 11; column 11 line 6).**

"and wherein the storage node is configured to:"

"(i) receive a request for accessing data;" **(e.g., see column 9 lines 28-30).** For example the first server and second server taught by Inohara represent primary node and secondary node, respectively cited in the instant application.

"(ii) select a secondary node for storing data in cache based on the historic point of access list;" **(e.g., see column 13 lines 35-37).** The access strategy table keep records that indicate which server have the Uniform Resource Locator or URL (e.g. see column 9 lines 37-39). The access strategy table also keeps records of access' date and time in the past (e.g. access history), see column 11 lines 45-47).

"(iii) forward modified data and symbolic information to one or more additional storage nodes in the storage cluster;" **(e.g., see column 9 lines 58-61).** For example the URL message transmitted (forwarded) to all other servers. Each URL is in correspondence with a collection of data including character and image data.

"and (iv) update the historic point of access list based on the symbolic information."

(e.g., see column 10 lines 23-24). For example the message-processing unit renews (updates) the access strategy table.

8.   In regard to claim 13, Inohara teaches:

"wherein the request is to write data." **(e.g., see column 9 lines 56-58).** For example the servers add (write) the URL contents, which include data, to the home page cache.

9.   In regard to claim 14, Inohara teaches:

"the historic point of access indicates that the data is not currently in cache of the nodes in the storage cluster;" **(e.g., see column 9 lines 41-42; column 11 column 32-36).** For example the access strategy table, which includes the cache directory, stores a plurality of combinations of URLs (e.g. column 11 lines 6-7).

"and the secondary node selected is any node in the storage cluster." **(e.g., see column 11 lines 45-47).** For example the second server selected from among servers 205', 205", ...

10.   The apparatus of claim 16 wherein:

"the symbolic information includes information relating to a first node that receives the request;" **(e.g., see column 11 lines 32-39).** For example URLs include a symbolic host names including first server.

"listing the first node as the primary node;" **(e.g., see column 9 lines 28-30).** For example the first server represents the primary node.

"and listing the secondary node as the secondary node." **(e.g., see column 9 lines 37-39).** For example the strategy table stores information (e.g. list) regarding which URL contents the other servers have. This information includes the second server or secondary node.

11.   In regard to claim 17, Inohara teaches:

"the storage node is further configured to select a remote node that is an original secondary node in the historic point of access list maintained in the cache directory. **(e.g., see column 11 lines 6-7 and 45-47; column 13 lines 36-37).** For example server 205 shown in Figure 2 is a remote server or a remote secondary node.

12.   In regard to claim 18, Inohara teaches:

"a copy of the modified data is maintained in two nodes in the storage cluster;" **(e.g., see column 9 lines 56-61).** For example URL message added to cache in first server (cache is updated) and the message is being sent to other servers for updating.

"and the symbolic information is maintained in remaining nodes of the storage cluster." **(e.g., see column 9 lines 58-61; column 10 line 64).** The URL message includes symbolic information

13.   In regard to claim 23, Inohara teaches:

"An article of manufacture, embodying logic to perform a method of maintaining cache in a clustered environment," **(e.g., see column 3 lines 6 and 19-21).**

"the method comprising:

"receiving a request in a primary node of a storage cluster for accessing data;" **(e.g., see column 9 lines 28-30).** For example the first server and second server taught by Inohara represent primary node and secondary node, respectively cited in the instant application.

"selecting a secondary node for storing data in cache based on a historic point of access list maintained in a cache directory;" **(e.g., see column 13 lines 35-37).** The access strategy table keeps records that indicate which server have the Uniform Resource Locator or URL (e.g. see column 9 lines 37-39). The access strategy table also keeps records of access' date and time in the past (e.g. access history), see column 11 lines 45-47).

"forwarding modified data and symbolic information to one or more relevant nodes in the storage cluster;" **(e.g., see column 9 lines 58-61).** For example the URL message transmitted (forwarded) to all other servers. Each URL is in correspondence with a collection of data including character and image data.

"and updating the historic point of access list based on the symbolic information." **(e.g., see column 10 lines 23-24).** For example the message-processing unit renews (updates) the access strategy table.

14.   In regard to claim 24, Inohara teaches:

"wherein the request is to write data." **(e.g., see column 9 lines 56-58).** For example
the server add (write) the URL contents, which include data, to the home page cache.

15.   In regard to claim 25, Inohara teaches:

"the historic point of access indicates that the data is not currently in cache of any node
of the storage cluster;" **(e.g., see column 9 lines 41-42; column 11 column 32-36).**
For example the access strategy table, which includes the cache directory, stores a
plurality of combinations of URLs (e.g. column 11 lines 6-7).

"and the secondary node selected is any node in the storage cluster." **(e.g., see
column 11 lines 45-47).** For example the second server selected from among servers
205', 205", ...

16.   In regard to claim 27, Inohara teaches:

"the symbolic information includes information relating to the first node;" **(e.g., see
column 11 lines 32-39).** For example URLs include a symbolic host names including
first server.

"listing the first node as the primary node;" **(e.g., see column 9 lines 28-30).** For
example the first server represents the primary node.

"and listing the secondary node as the secondary node." **(e.g., see column 9 lines 37-
39).** For example the strategy table stores information (e.g. list) regarding which URL

contents the other servers have. This information includes the second server or

secondary node.

17.   In regard to claim 28, Inohara teaches:

"selecting a remote node that is an original secondary node in the historic point of

access list maintained in the cache directory. **(e.g., see column 11 lines 6-7 and 45-**

47; column 13 lines 36-37). For example server 205 shown in Figure 2 is a remote

server or a remote secondary node.

18.   In regard to claim 29, Inohara teaches:

"a copy of the modified data is maintained in the first node and the secondary node;"

(e.g., see column 9 lines 56-61). For example URL message added to the cache in the

first server (cache is updated) and the message is being sent to other servers for

updating.

"and the symbolic information is maintained in remaining nodes of the storage cluster."

(e.g., see column 9 lines 58-61; column 10 line 64). The URL message includes

symbolic information.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

Claims 8, 19, and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inohara in view of U.S. Patent No 6,178,519 B1 to Tucker.

19.   In regard to claim 8, Inohara teaches all limitations included in claim 1, but does not teach: "acquiring a lock on associated tracks on nodes in the storage cluster wherein the locking protocol provides for multiple readers and a single writer."

Tucker teaches: "acquiring a lock on associated tracks on nodes in the storage cluster wherein the locking protocol provides for multiple readers and a single writer." **(e.g., see column 6 lines 59-65)** for purpose of having single write and multiple read into the shared memory. Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include locking policy taught by Tucker to method and system of Inohara, since inclusion provide a locking policy that allows a single write and multiple reads to the shared memory at a given time (e.g. column 6 lines 61-62).

20.   In regard to claim 19, Inohara teaches all limitations included in claim 12, but does not teach:

"the storage node is further configured to acquire a lock on associated tracks on relevant nodes in the storage cluster wherein the locking protocol provides for multiple readers and a single writer."

Tucker teaches: "the storage node is further configured to acquire a lock on associated tracks on relevant nodes in the storage cluster wherein the locking protocol provides for multiple readers and a single writer." **(e.g., see column 6 lines 59-65)** for purpose of having single write and multiple read into the shared memory. Therefore it

would have been obvious to one having ordinary skill in art at the time the invention was made to include locking policy taught by Tucker to method and system of Inohara, since inclusion provide a locking policy that allows a single write and multiple reads to the shared memory at a given time (e.g. column 6 lines 61-62).

21.   In regard to claim 30, Inohara teaches all limitations included in claim 23, but does not teach:

"acquiring a lock on associated tracks on nodes in the storage cluster wherein the locking protocol provides for multiple readers and a single writer."

Tucker teaches: **(e.g., see column 6 lines 59-65)** for purpose of having single write and multiple read into the shared memory. Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include locking policy taught by Tucker to method and system of Inohara, since inclusion provide a locking policy that allows a single write and multiple reads to the shared memory at a given time (e.g. column 6 lines 61-62).

Claim Rejections - 35 USC § 103

Claims 9, 20, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inohara in view of U.S. Patent No. 6,035,415 to Fleming.

22.   In regard to claim 9, Inohara further teaches: "replicating the data from the primary node or the secondary node to another node in the storage cluster." **(e.g., see column 2 lines 27-30).** However Inohara does not teach:

"detecting a failure of a node in the storage cluster; broadcasting a failover recovery message to all nodes in the storage cluster."

Fleming teaches: "detecting a failure of a node in the storage cluster;" **(e.g., see column 13 line 33)** for purpose of detecting a failure. Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include failure detection mechanism taught by Fleming to method and system of Inohara, since inclusion causes the secondary unit to take over the role of the failed primary unit (e.g. column 13 lines 37-39).

"broadcasting a failover recovery message to all nodes in the storage cluster." **(e.g., see column 12 lines 31-36)** for purpose adding failover control block (circuitry). Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include failover control block taught by Fleming to method and system of Inohara, since inclusion provides the capability to outputting (broadcasting) the failover recovery messages (e.g. column 12 lines 34-36).

23.   In regard to claim 20, Inohara further teaches:

"replicate the data from one node in the storage cluster to another node in the storage cluster;" **(e.g., see column 2 lines 27-30).** However Inohara does not teach:

"detecting a failure of a node in the storage cluster; broadcasting a failover recovery message to all nodes in the storage cluster."

Fleming teaches: "detecting a failure of a node in the storage cluster;" **(e.g., see column 13 line 33)** for purpose of detecting a failure. Therefore it would have been

obvious to one having ordinary skill in art at the time the invention was made to include failure detection mechanism taught by Fleming to method and system of Inohara, since inclusion causes the secondary unit to take over the role of the failed primary unit (e.g. column 13 lines 37-39).

"broadcasting a failover recovery message to all nodes in the storage cluster;" **(e.g., see column 12 lines 31-36)** for purpose adding failover control block (circuitry). Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include failover control block taught by Fleming to method and system of Inohara, since inclusion provides the capability to outputting (broadcasting) the failover recovery messages (e.g. column 12 lines 34-36).

24. In regard to claim 31, Inohara further teaches:

"replicating the data from the primary node or the secondary node to another node in the storage cluster" **(e.g., see column 2 lines 27-30).** However Inohara does not teach:

"detecting a failure of a node in the storage cluster; broadcasting a failover recovery message to all nodes in the storage cluster."

Fleming teaches: "detecting a failure of a node in the storage cluster;" **(e.g., see column 13 line 33)** for purpose of detecting a failure. Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include failure detection mechanism taught by Fleming to method and system of Inohara, since inclusion causes the secondary unit to take over the role of the failed primary unit (e.g. column 13 lines 37-39).

"broadcasting a failover recovery message to all nodes in the storage cluster." **(e.g., see column 12 lines 31-36)** for purpose adding failover control block (circuitry). Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include failover control block taught by Fleming to method and system of Inohara, since inclusion provides the capability to outputting (broadcasting) the failover recovery messages (e.g. column 12 lines 34-36).

Claim Rejections - 35 USC § 103

Claims 10, 21, and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Inohara in view of Fleming and U.S Patent No. 5,768,623 to Judd et al (hereinafter Judd).

25.   In regard to claim 9, Inohara teaches all limitations included in claim 1, but does not teach:

"detecting a failure of a node in the storage cluster; broadcasting a failover recovery message to all nodes in the storage cluster; and destaging the data from the primary node or the secondary node to disk."

Fleming teaches: "detecting a failure of a node in the storage cluster;" **(e.g., see column 13 line 33)** for purpose of detecting a failure. Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include failure detection mechanism taught by Fleming to method and system of Inohara, since inclusion causes the secondary unit to take over the role of the failed primary unit (e.g. column 13 lines 37-39).

"broadcasting a failover recovery message to all nodes in the storage cluster;" **(e.g., see column 12 lines 31-36)** for purpose adding failover control block (circuitry). Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include failover control block taught by Fleming to method and system of Inohara, since the inclusion provides the capability to outputting (broadcasting) the failover recovery messages (e.g. column 12 lines 34-36).

Judd teaches: "and destaging the data from the primary node or the secondary node to disk." **(e.g., see column 10 lines 16-17)** for purpose of destaging data to disk. Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include destaging data (e.g. copying data from the cache to the disk) taught by Fleming to method and system of Inohara, since the inclusion provide the capability to protect the availability of data stored in storage systems (e.g. column 1 lines 26-29).

26.   In regard to claim 21, Inohara teaches all limitations included in claim 12, but does not teach:

Fleming teaches: "detect a failure of a node in the storage cluster;" **(e.g., see column 13 line 33)** for purpose of detecting a failure. Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include failure detection mechanism taught by Fleming to method and system of Inohara, since inclusion causes the secondary unit to take over the role of the failed primary unit (e.g. column 13 lines 37-39).

"broadcast a failover recovery message to an additional node in the storage cluster;"

(e.g., see column 12 lines 31-36) for purpose adding failover control block (circuitry).

Therefore it would have been obvious to one having ordinary skill in art at the time the

invention was made to include failover control block taught by Fleming to method and

system of Inohara, since the inclusion provides the capability to outputting

(broadcasting) the failover recovery messages (e.g. column 12 lines 34-36).

Judd teaches: "and destage the data from a node in the storage cluster to disk."

(e.g., see column 10 lines 16-17) for purpose of destaging data to disk. Therefore it

would have been obvious to one having ordinary skill in art at the time the invention was

made to include destaging data (e.g. copying data from the cache to the disk) taught by

Fleming to method and system of Inohara, since the inclusion provide the capability to

protect the availability of data stored in storage systems (e.g. column 1 lines 26-29).

27.   In regard to claim 32, Inohara teaches all limitations included in claim 23, but

does not teach:

Fleming teaches: "detecting a failure of a node in the storage cluster;" **(e.g., see**

column 13 line 33) for purpose of detecting a failure. Therefore it would have been

obvious to one having ordinary skill in art at the time the invention was made to include

failure detection mechanism taught by Fleming to method and system of Inohara, since

inclusion causes the secondary unit to take over the role of the failed primary unit (e.g.

column 13 lines 37-39).

"broadcasting a failover recovery message to all nodes in the storage cluster;" **(e.g., see column 12 lines 31-36)** for purpose adding failover control block (circuitry). Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include failover control block taught by Fleming to method and system of Inohara, since the inclusion provides the capability to outputting (broadcasting) the failover recovery messages (e.g. column 12 lines 34-36).

Judd teaches: "and destaging the data from the primary node or the secondary node to disk." **(e.g., see column 10 lines 16-17)** for purpose of destaging data to disk. Therefore it would have been obvious to one having ordinary skill in art at the time the invention was made to include destaging data (e.g. copying data from the cache to the disk) taught by Fleming to method and system of Inohara, since the inclusion provides the capability to protect the availability of data stored in storage systems (e.g. column 1 lines 26-29).

ALLOWABLE SUBJECT MATTER

Claims 4, 11, 15, 22, 26 and 33 are objected to as being dependent upon rejected based claims, but would be allowable if rewritten in correct and independent form including all of the limitations of the base claim and any intervening claims.

1.   The primary reason for allowance of claims 4, 15, and 26 in instant application is the combination with the inclusion in these claims having the **secondary node selected is the original primary node.**

2.   The primary reason for allowance of claims 11, 22, and 33 in instant application is the combination with the inclusion in these claims having **requesting a modified track list comprising an identifier of modified data and an associated symbolic entry.**

: <u>IMPORTANT NOTE</u> :

I f the applicant should choose to rewrite the independent claims to include the limitations recited in either one of the claims, the applicant is encouraged to **amend the title of the invention** such that it is descriptive of the invention as claimed as required be sec. **606.01** of the **MPEP**. Furthermore, the **summary of invention** and the **abstract** should be amended to bring them into harmony with the allowed claims as required by paragraph 2 of **sec. 1302.01** of the **MPEP**.

As allowable subject matter has been indicated, applicant's response must either comply with all formal requirements or specifically traverse each requirement not compiled with. See **37 C.F.R. § 1.111(b)** and **§ 707.07(a) of the M.P.E.P.**

Conclusion

The prior art made of record and not relied upon are as follows:

1.   U. S. Patent No. 6,609,213 B1 to Nguyen describes cluster-based system and method of recovery from server failures.

2.   U. S. Patent No. 6,178,519 B1 to Tucker describes cluster-wide database system.

3.   U. S. Patent No. 5,926,180 to Shimamura describes browsing unit and storage medium recording a browsing program theron.

3.   U. S. Patent Publication No. 2002/0133537 A1 to Lau et al describes server cluster and server-side cooperative catching method for use with same.
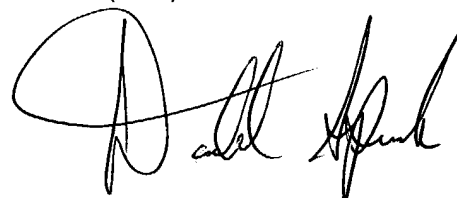
Any inquiry concerning this communication should be directed to Hashem Farrokh whose telephone number is (703) 305-8886. The examiner can normally be reached Monday-Friday from 8:00 AM to 5:00 PM.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald A Sparks, can be reached on (703) 308-1756. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating status of this application or proceeding should be directed to receptionist whose telephone number is (703) 305-3900.

**DONALD SPARKS
SUPERVISORY PATENT EXAMINER**

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